

**SPECIFICATION
FOR
PIANOS, GRAND**

(This specification is released for procurement purposes until revised or rescinded.)

SCOPE

This specification covers grand pianos intended for use in the concert hall, broadcast studio, recital hall, school auditorium, the music classroom and private teaching studio.

I. CLASSIFICATION

The grand pianos covered are classified according to size and recommended use.

<u>CLASS</u>	<u>Length (min.)</u>	<u>RECOMMENDED FOR:</u>
I	8'11"	Concert hall
II	6'11	Broadcast studio, recital hall, rehearsal room, school auditorium, and private teaching studio.
III	6'6"	Broadcast studio, recital hall, rehearsal room, school auditorium, and private teaching studio.
IV	6'3"	The music classroom and private teaching studio.
V	5'11"	The music classroom and private teaching studio.
VI	5'7"	The music classroom and advanced student practice.

II. APPLICABLE STANDARDS

There are no other standards applicable to this specification.

III. REQUIREMENTS

A. GENERAL

The grand pianos covered by this specification shall be standard models in current production and identified by model designation in the manufacturer's published specifications. The pianos shall have a full keyboard of 88 keys.

B. WOODS AND VENEERS

All solid wood used in constructing the piano shall be carefully selected from structurally sound stock, and free from such defects as visible splits, knots, checks or decay. The wood shall be properly kiln dried and conditioned.

All wood veneers shall be carefully selected for uniformity of grain and color, with no wide variations of patterns between adjoining pieces.

C. RIMS

The outer and inner rims shall be a multiple laminate of plain sawn veneers, cross-banded. Hard maple, yellow poplar or mahogany may be used for blind veneers.

The rim bracing shall be fitted, glued and dowelled into the inner rim and cross block or back rail, and carefully aligned in directions of maximum stress.

D. SOUNDBOARD

The soundboard shall be solid quarter sawn Sitka or Eastern Spruce, and matched for grain and texture. The thickness of the soundboard shall be varied from center to edges in accordance with scientific acoustical principles to give maximum responsiveness. The soundboard shall be crowned and the ribs crowned to fit the soundboard. The ribs shall be of California Sugar Pine, Sitka or Eastern Spruce.

E. WREST PLANK (PIN BLOCK)

The wrest plank shall be of multiple laminated, kiln-dried select hard maple or beech.

F. PLATE

The plate shall be of cast iron, clean, free from defects and fitted solidly to all contact surfaces. All agraffe holes shall be round and agraffes firmly fitted into the plate to provide a uniform string level. The underside of the Capo d'Astro bar shall be polished to a smooth finish.

The plate shall be finish plated in bronze or gold, and the name of the company that manufactured the piano shall be cast onto the plate.

G. BRIDGES

Bridges shall be of quarter sawn hard maple, or may be flat sawn if laminated hard maple. May be vertically laminated, not horizontally. The bridges shall be securely attached to the soundboard by screws, dowels or gluing. The bridge to soundboard assembly shall be crowned to provide sufficient down bearing for effective sound transmission from strings to soundboard.

H. TUNING PINS

Tuning pins shall be blued-steel, not less than 2-3/8" long, and the threaded portion shall engage a minimum of 3/4 the thickness of the pin block. Pins shall be minimum double-threaded friction type. Pins may be nickel-plated on exposed ends only.

I. STRINGS

Treble strings shall be of the finest quality highly polished steel piano wire. Contrabass strings shall be of the finest quality copper wound steel piano wire.

J. ACTION

Action shall be type, which will allow key to depress approximately halfway under an approximate 60-gram weight with damper released. Touch, key height, dip and weight shall be uniform and even throughout all registers. Upon release of a key, the damper shall effectively stop audible vibrations on the sounding string.

Wood parts shall be kiln-dried hard maple, except hammer molding may be birch, walnut or hard maple.

All action felt and cloth shall be of high quality wool, moth- proofed and inner woven. The action centers are to be bushed with cloth or teflon.

Hammer felt shall be glued to hammers with a resorcinol based, or other types of comparable, glue. Hammers shall be shaped and voiced.

Centers pins and spoons shall be either nickel silver, nickel-plated brass, or nickel-plated steel.

Springs shall be nickel-plated or tinned brass wire.

Action bracket shall be aluminum or a gray iron casting.

K. KEY FRAME

The key frame shall be hard maple or birch and fitted to the keyboard with no knocks in front or balance rail. Key frames with a back rail of ash and front rail of laminated solid birch and pine will be acceptable. Pins shall be nickel-plated steel or polished steel or polished brass. Key frame punchings shall be mothproof.

L. KEYBED

The key bed shall be of quarter-sawn spruce or cross-laminated hardwood of balanced construction for maximum stability and minimal dimensional change.

M. KEYS

Exposed ends, edges, and corners of keys shall be free of rough or sharp projections. Keys shall be properly bushed and eased on the key frame. Key bushings shall be mothproofed. Capstans to be brass.

N. PEDALS

Three functional pedals shall be provide, finished in brushed or polished brass or bronze, and designated as una corda pedal, full sostenuto pedal, and full sustaining pedal.

O. LEGS AND LYRE

The legs and lyre shall be of solid hardwood, and of the same type case finish.

P. CASTERS

Casters shall be at least 1 3/4" double wheel with ball bearings. May also be single wheels, with ball bearing swivel casters.

Q. HARDWARE

All exposed hardware to be of solid brass or bronze, or nickel-plated.

R. FINISH

Case to be sanded, stained, filled and finished with at least three coats of lacquer (polyester and polyurethane are acceptable). Finish to be as specified in the Invitation for Bids.

S. ADJUSTMENTS AND TUNING

The instrument, at time of delivery, shall be properly voiced and regulated, including action and pedals, and shall be tuned (A440) and in satisfactory playing condition. It shall have had not less than six tunings at the factory, including three chippings and three tunings with an interval of at least three days between each chipping and tuning. It shall be tuned and regulated immediately upon delivery and tuned and regulated again not later than six months after delivery.

T. MUSICAL TONE

The piano shall possess, throughout the entire range of the keyboard, a musical tone of sufficient depth and power to warrant written approval of the Advisory Committee on Musical Instruments. Decay rate shall be 12 to 14 seconds minimum on A440.

U. PERFORMANCE

Careful consideration will be given to the continued reliability of the instrument in the retention of pitch and tone quality, as well as pedal, keyboard, and other mechanical matters as observed by state purchasers and other users. Unsatisfactory performance in these requirements shall be considered sufficient cause to refuse to recommend the piano.

V. WORKMANSHIP

The piano shall exhibit throughout, careful attention to details of assembly, workmanship and durability commensurate with the level of quality described in this specification.

W. SPECIAL USE

Where a Class I piano will be used extensively by visiting artists in scheduled performances, the Head of the School of Music or of the agency may designate one or more bands and model needed to satisfy the demands of such artists. The State Purchasing Officer, with the advice of the Advisory Committee on Musical Instruments, may limit the purchase accordingly. A Statement of Justification must be furnished to the State Purchasing Officer.

IV. WARRANTY

The manufacturer warrants to the owner that the piano furnished under this specification will be new, of good material and workmanship, and agrees to replace promptly any part or parts which

by reason of defective material or workmanship shall fail under normal use appropriate to its classification, free of negligence or accident, for a minimum period of ten years from date of delivery. Such replacement shall be free of any charge to the owner or his representative.

V. SERVICE, PARTS, AND MANUALS

This section is not applicable.

VI. ACCEPTANCE EVALUATION AND QUALITY ASSURANCE

If called for in the Invitation for Bids, the contractor shall arrange for the purchaser, at the purchaser's expense, to select the piano to be delivered at the manufacturer's facility.

Upon delivery of the piano, the owner or his authorized representative may conduct an acceptance inspection for compliance with the provisions of this specification.

The contractor shall furnish the owner, at the time of delivery, a written statement that the piano has been properly voiced, tuned and regulated to the piano manufacturer's specification.

VII. DELIVERY AND PAYMENT

Delivery of and payment for pianos under this specification shall be in accordance with the terms and conditions of the Invitation for Bids. The contractor shall be responsible for any packing, packaging, or protection required to insure delivery in an undamaged condition.

VIII. ORDERING DATA

Purchasing should exercise any desired options offered herein and should specify the following in the Requisition and Invitation For Bids:

1. Title, number, and date of this specification.
2. Class piano desired.
3. Specify finish desired.
4. If a Class I concert grand piano is requisitioned for purchase under the SPECIAL USE provision of this specification, a Statement of Justification from the Head of the School of Music or of the agency must be finished to the State Purchasing Office. (See III.W.)
5. If the piano, to be delivered, is to be selected at the manufacturer's facility. (see VI.)

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